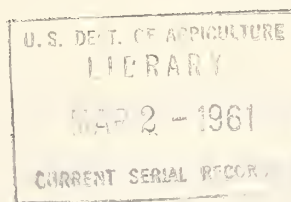


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Growth Through Agricultural Progress

## HOUSEHOLD USE OF FATS AND OILS IN THE UNITED STATES

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## HOUSEHOLD USE OF FATS AND OILS IN THE UNITED STATES 1/

Detailed information on household use of fats and oils is available from the 1955 nationwide survey. In this survey 6,060 households in all parts of the country reported on how much of each major fat or oil, as well as other food items, they used during the week preceding the interview, and how much they spent for each. 2/ Information on fats, as on all other foods, has been cross-classified according to the region, degree of urbanization, and family income of the households, and averages have been calculated for each sub-category. This article reviews these data and those from earlier surveys that are pertinent to the analysis of the household market for fats and oils.

### Measures of Overall Use of Fats and Oils

Results of the spring 1955 survey indicate that households of 2 or more persons in the U. S. used 0.85 pound (fat content) of separated (refined) fats and oils per person during the survey week. 3/ There was a great difference among households in the several urbanization categories in average amounts of separated fats used. Urban households generally used the smallest total quantity of separated fats (on a per person basis) but obtained more from prepared foods such as bakery goods than households in the other urbanizations. Farm households used the largest amount of separated fats and got the smallest amount from prepared foods (table 10).

At first glance, measures of overall use such as this do not appear to have as much value to marketers of fats and oils as do measures of use of individual items. But items such as butter and margarine substitute one for another, and a change in use of one of them may mean either a change in total use of fats or only a substitution of one for another. Because of this, measures of overall use are helpful in checking the implications of changes in use of individual items.

### Regional and Urbanization Differences

Average use of separated fats and oils, including those bought or home-produced as such and those purchased in prepared foods, varied among households of the same urbanization group from one region to another (table 10). Among urban households of 2 or more persons, average use of separated fats ranged

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2/ Report Nos. 1-5, 1955 Household Food Consumption Survey, contain primarily marketing information such as average amounts used of each food item, the average money value of it, and the percentage of households reporting using the item. Report Nos. 6-10 contain primarily dietary information, such as fat content of the foods used.

3/ As used in this article, separated fats refer to the total of visible and invisible separated fats. Separated fats include butter, margarine, lard, vegetable shortening, salad and cooking oils, and refined fats and oils in salad dressing; invisible separated fats include any of these commodities added in the preparation of ready prepared food.

Table 10.- Several measures of fat consumption per person, in households of 2 or more persons grouped by urbanization, by region and by income, in a week, spring 1955 <sup>1/</sup>

Urbanization and item	Regions			1954 family income after income taxes					
				North:	South:	West:	All:	Under:	\$4-:
	east:	Central:					2/	\$2,000:	4,000:
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
<b>Urban</b>									
Total fat content of diet	2.19	2.42	2.35	2.47	2.33	2.10	2.25	2.34	2.51
Fat content of non-separated fat <sup>3/</sup>	1.49	1.60	1.47	1.64	1.53	1.33	1.45	1.55	1.67
Fat content of all separated fat <sup>4/</sup>	.70	.82	.88	.83	.80	.77	.80	.79	.84
Visible	.57	.67	.77	.70	.67	.68	.69	.65	.68
Invisible <sup>5/</sup>	.13	.15	.11	.13	.13	.09	.11	.14	.16
<b>Rural nonfarm</b>									
Total fat content of diet	2.30	2.42	2.35	2.69	2.38	2.14	2.38	2.48	2.53
Fat content of non-separated fat <sup>3/</sup>	1.47	1.56	1.41	1.74	1.49	1.20	1.49	1.59	1.65
Fat content of all separated fat <sup>4/</sup>	.83	.86	.94	.95	.89	.94	.89	.89	.88
Visible	.70	.73	.85	.83	.78	.88	.78	.76	.73
Invisible <sup>5/</sup>	.13	.13	.09	.12	.11	.06	.11	.13	.15
<b>Farm</b>									
Total fat content of diet	2.66	2.67	2.56	2.62	2.61	2.53	2.66	2.68	2.67
Fat content of non-separated fat <sup>3/</sup>	1.76	1.50	1.48	1.70	1.62	1.49	1.67	1.75	1.75
Fat content of all separated fat <sup>4/</sup>	.90	1.17	1.08	.92	.99	1.04	.99	.93	.92
Visible	.80	1.07	1.03	.81	.91	.99	.90	.83	.82
Invisible <sup>5/</sup>	.10	.10	.05	.11	.08	.05	.09	.10	.10

<sup>1/</sup> From 1955 Household Food Consumption Survey, Report Nos. 1-10. Per person averages derived from household averages using average household size based on 21 meals at home equivalent to one person.

<sup>2/</sup> Includes some households not classified by income.

<sup>3/</sup> Fat obtained from foods such as meat, poultry, fish, and milk products other than butter.

<sup>4/</sup> Separated fats are refined fats such as butter, margarine, lard, and vegetable oil products.

<sup>5/</sup> Separated fat taken into the kitchen in a processed food, such as shortening in bakery goods. Estimated as 10 percent of flour mixes, 2 percent of bread, 10 percent of other bakery goods, and 35 percent of potato chips.



from a low of 0.70 pound per person in the Northeast to 0.88 pound in the South. The only region that was consistently high or low in use of fats was the Northeast, where households in each urbanization group used the least fat compared with households in that urbanization group in other regions.

The general pattern of variation in use among urbanization categories was that farm households used the most separated fats per person and urban households used the least.

#### Differences Associated with Income

Use per person of separated fats and oils decreased in rural nonfarm and farm households in successively higher income groups. But among urban households, average use of separated fats and oils increased with income, from 0.77 pound per person in households with less than \$2,000 income to 0.84 pound in those households with incomes over \$6,000. The rise was mostly in invisible separated fats as these households use relatively greater amounts of ready prepared foods.

#### Other Measures of Overall Use

Other measures of the use of fats and oils help explain variations in use of total separated fats and of individual items. Separated fats from ready prepared foods ("invisible" separated fats) has been mentioned. In general, the pattern of use of invisible separated fats was opposite to that for visible separated fats. Urban households obtained the most separated fats in the form of prepared foods, and farm households the least. But farm households used the most visible separated fats and urban households the least (table 10). The same reversal of pattern was found with respect to income. High income households generally used the most invisible and the least visible separated fats while low income households used the most visible and the least invisible separated fats.

Another overall measure, total fat content of the diet, includes fats from sources often not taken into account as sources of fat, such as meat and dairy products other than butter. These are described as non-separated fats. Almost two-thirds of the total fat content of the diet came from these foods. Fats from this source are important in the total competitive picture because they can be substituted for separated fats to some extent. In the spring of 1955 about 60 percent of the non-separated fats came from meat, poultry, fish, and eggs; 30 percent from milk products; and 10 percent from other foods. The pattern of use of non-separated fats was similar to that of invisible separated fats--consumption increased in households with higher incomes. Farm households used more non-separated fats than urban households because of the large amount of home-produced meat and milk they consumed.

#### Use of Visible Separated Fats and Oils

Visible separated fats are used as table fats (butter and margarine), cooking fats (lard and vegetable shortening), salad or cooking oil, and in

prepared salad dressings. The average quantity used per person of each of these items varied from region to region with degree of urbanization and by income of the households. Average consumption rates of households in the several regions, urbanization, and income groups indicate the structure of the market--who buys what, and who doesn't.

#### Table Fats

Average use of total table fats in urban, rural nonfarm, and farm households throughout the U. S. amounted to 0.40 pound per person in each urbanization during the survey week. <sup>4/</sup> But urban households used 0.20 pound each of butter and of margarine on the average, while rural nonfarm households used more margarine than butter, and farm households used more butter than margarine (table 11).

Patterns of use of table fats according to family income were similar in 1955 in each group of households cross-classified by region and urbanization. Generally, use of butter increased with income while use of margarine was more stable. As a result, total use of table fats also increased gradually in households in successively higher income groups. The effect of income on use of table fats in the Northeast and in the South, the extremes among the 4 regions in use of fats and oils, is shown in table 12.

Though use of table fats tended to follow the same general pattern with respect to income in each urbanization category, the amounts consumed per person varied from region to region. For example, low income urban households in the Northeast on the average used 0.21 pound per person of butter and 0.13 pound of margarine. But use of butter increased steadily with each step up in family income to 0.27 pound per person in households with incomes over \$6,000. Margarine consumption remained relatively stable. In the North Central Region low-income urban households used about equal amounts of butter and margarine, around 0.24 pound per person, but upper income households used around 0.30 pound of butter and only 0.17 pound of margarine. Urban households in the South in most income groups used about 3 times as much margarine per person as they did butter, and use of both commodities increased with income. In the West low-income urban households used about 0.20 pound of butter per person and 0.35 pound of margarine. But the use of butter steadily increased to around 0.30 pound per person in the over \$6,000 income group while use of margarine decreased to around 0.20 pound in the same group.

Rural nonfarm and farm patterns of use of butter and margarine show comparable variations among the several regions, as indicated in tables 11 and 12.

#### Cooking Fats

Farm households on the average used the most lard in each region, and urban households used the least. The vegetable shortening picture was not quite so clear cut. In some regions farm households used the most per person,

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<sup>4/</sup> For more detail on use of butter and margarine see "Consumption Patterns of Dairy Products." NFS-79, February 1957.

Table 11.- Consumption per person of fats and oils, in households of 2 or more persons grouped by region and urbanization, in a week, spring 1955 <sup>1/</sup>

Region and urbanization:	Table fats <sup>2/</sup>			Cooking fats			Cooking : Salad		
	Total	Butter	Margarine	Total	Lard	Vegetable shortening	Cooking : and salad oil:	dressing	
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
United States									
Urban	0.40	0.20	0.20	0.20	0.07	0.14	0.07	0.16	
Rural nonfarm	.40	.17	.23	.33	.18	.15	.05	.16	
Farm	.40	.27	.13	.50	.39	.11	.03	.13	
Northeast									
Urban	.40	.25	.15	.10	.02	.08	.09	.12	
Rural nonfarm	.50	.19	.31	.19	.07	.12	.05	.13	
Farm	.50	.28	.22	.30	.18	.12	.03	.15	
North Central Region									
Urban	.43	.24	.19	.19	.04	.15	.05	.16	
Rural nonfarm	.44	.21	.23	.27	.11	.15	.03	.18	
Farm	.46	.34	.12	.37	.27	.10	.02	.13	
South									
Urban	.32	.09	.24	.36	.16	.20	.05	.19	
Rural nonfarm	.30	.12	.18	.48	.32	.16	.05	.16	
Farm	.34	.23	.11	.67	.56	.10	.03	.13	
West									
Urban	.44	.18	.26	.19	.04	.14	.08	.19	
Rural nonfarm	.43	.15	.28	.28	.08	.20	.12	.19	
Farm	.43	.26	.17	.29	.12	.17	.09	.18	

<sup>1/</sup> From 1955 Household Food Consumption Survey, Report Nos. 1-5. Per person averages derived from household averages using average household sizes based on 21 meals at home equivalent to one person.  
<sup>2/</sup> Product weight.



Table 12.- Fats and oils consumed per person, in households of 2 or more persons grouped by urbanization and income, in the Northeast and the South, in a week, spring 1955 <sup>1/</sup>

Urbanization and item	Northeast					South				
	All	Under	\$2-	\$4-	\$6,000	All	Under	\$2-	\$4-	\$6,000
	2/	\$2,000	4,000	6,000	and over	2/	\$2,000	4,000	6,000	and over
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
Urban										
Total table fat <sup>3/</sup>	0.40	0.34	0.40	0.37	0.42	0.32	0.29	0.29	0.37	0.42
Butter	.25	.21	.22	.23	.27	.09	.09	.07	.08	.13
Margarine	.15	.13	.17	.15	.15	.24	.20	.22	.29	.28
Total cooking fat	.10	.11	.14	.08	.11	.36	.43	.39	.33	.24
Lard	.02	<sup>5/</sup>	.05	.01	.02	.16	.30	.21	.07	.03
Vegetable										
shortening <sup>4/</sup>	.08	.11	.10	.07	.09	.20	.13	.17	.26	.21
Salad and cooking oil	.09	.06	.07	.10	.11	.05	.02	.04	.05	.12
Salad dressing <sup>3/</sup>	.12	.10	.12	.13	.13	.19	.12	.19	.22	.21
Rural nonfarm										
Total table fat <sup>3/</sup>	.50	.65	.45	.46	.53	.30	.28	.30	.32	.33
Butter	.19	.26	.15	.16	.22	.12	.16	.10	.13	.10
Margarine	.31	.40	.30	.30	.31	.18	.12	.21	.19	.23
Total cooking fat	.19	.27	.19	.18	.14	.48	.61	.44	.42	.33
Lard	.07	.14	.09	.05	.04	.32	.46	.28	.25	.05
Vegetable										
shortening <sup>4/</sup>	.12	.13	.11	.13	.09	.16	.15	.16	.16	.29
Salad and cooking oil	.05	.06	.05	.05	.05	.05	.04	.05	.09	.06
Salad dressing <sup>3/</sup>	.13	.04	.14	.14	.15	.16	.10	.18	.21	.24
Farm										
Total table fat <sup>3/</sup>	.50	.62	.49	.47	.43	.34	.33	.33	.34	.38
Butter	.28	.30	.28	.27	.25	.23	.24	.20	.18	.22
Margarine	.22	.32	.21	.20	.18	.11	.09	.13	.16	.16
Total cooking fat	.30	.39	.33	.19	.25	.67	.72	.62	.58	.50
Lard	.18	.26	.24	.09	.08	.56	.63	.51	.43	.34
Vegetable										
shortening <sup>4/</sup>	.12	.13	.09	.11	.17	.10	.08	.11	.15	.16
Salad and cooking oil	.03	.03	.02	.02	.04	.03	.02	.03	.04	.02
Salad dressing <sup>3/</sup>	.15	.18	.13	.10	.22	.13	.10	.16	.19	.17

<sup>1/</sup> From 1955 Household Food Consumption Survey, Report Nos. 2 & 4. Per person averages derived from household averages using average household size based on 21 meals equivalent to one person. Income groups based on 1954 family income after taxes. <sup>2/</sup> Includes some households not classified by income. <sup>3/</sup> Product weight. <sup>4/</sup> Includes a small amount of mixed vegetable oil and animal fat. <sup>5/</sup> Less than 0.005 pounds.

as in the Northeast, and in others they used the least, as in the North Central Region and the South (table 11).

On the average, low income households in all urbanizations used more lard than vegetable shortening. Use of lard tended to run sharply lower in households with higher incomes, while use of vegetable shortening was relatively stable throughout the income range. Accordingly, urban and rural nonfarm households in the middle and upper income groups, used more vegetable shortening per person than lard. All farm households used more lard than vegetable shortening on the average but the difference narrowed in the upper part of the income range (table 12). Patterns of use of cooking fats differed as much within each urbanization category as they did among the urbanizations. On the average, urban households in the Northeast used little vegetable shortening, 0.08 pound per person, and practically no lard purchased as such, (table 12). About the same amount of lard was used per person in urban households in the North Central Region as in the Northeast, but about half again as much vegetable shortening was used. Patterns and level of use per person with respect to income of lard and vegetable shortening in urban households in the West were about the same as those in the North Central Region. In all 3 regions, use of these commodities was about the same among households in each of the income groups. In the South, urban households used 0.16 pound of lard per person on the average and 0.20 pound of vegetable shortening. Low income southern urban households used more lard than vegetable shortening, but among southern households with successively higher incomes, use of lard decreased and use of vegetable shortening increased.

Use of cooking fats in rural nonfarm households did not vary as much among the regions as it did in urban households. In all regions, use of lard in rural nonfarm households decreased with income. Use of vegetable shortening generally increased up to the middle incomes, and then decreased. Southern rural nonfarm households in each income group used the most lard and generally the most vegetable shortening compared with use in other regions.

Farm households were the big users of cooking fats, particularly in the South. Most of the cooking fat used by southern farm households was lard, 0.63 pound per person in the low income households. The rate of use decreased steadily to 0.34 pound in households with incomes over \$6,000. Southern farm households in the lowest income group used 0.08 pound of vegetable shortening per person. Use by upper income groups was twice as high (table 12). Farm households in other regions generally used cooking fats in roughly the same patterns by income though the level was lower.

In all regions, groups of households that used the least cooking fats generally used the most invisible separated fats in bakery goods and other prepared foods. Upper income households used the most commercially prepared foods per person so they generally used the least cooking fats bought or home-produced as such.



### Salad and Cooking Oils and Prepared Salad Dressing

In the U. S. as a whole urban households averaged highest in use per person of salad and cooking oils and prepared salad dressings, and farm households lowest. The relative amounts used per person in each urbanization varied from region to region (table 11). Western households used more of these commodities on the average than did households in the other regions. They also used more fresh salad vegetables per person than households in the other regions.

Generally, per person use both of salad and cooking oils and of prepared salad dressings increased in households grouped at successively higher income levels. The pattern of use of these commodities according to income was much the same in all regions and all urbanization groups, though the level of use varied from group to group. For example, low-income urban households in the Northeast used 0.06 pound of salad and cooking oil per person during the survey week, and upper income households in the same region and same urbanization group used 0.11 pound per person. In the South the low-income urban households used 0.02 pound per person of the same commodity on the average, and upper-income households used 0.12 pound (table 12).

### Home Production of Separated Fats

Butter and lard are the only edible separated fats that are home-produced to any appreciable extent. Average use per person of home-produced butter and lard is significant only in farm households. Almost half the butter and half the lard used during the week reported on by farm households in the U. S. were home-produced.

The amounts of home-produced butter and lard used, and their relative importance in total use of these commodities, varied from region to region (table 13). For example, farm households in the North Central Region used 0.05 pound of home-produced butter per person, the least reported during the survey week, and southern farm households used the most, 0.19 pound. The low consumption rate reported in the North Central Region, an important milk producing region, is due to the definition used in the survey. Only butter churned at home from milk produced on the same farm was considered to be home-produced, and many north central producers sell their milk to creameries and buy back the butter they need at about the same price per pound of butterfat as they receive for their milk.

Western farm households used only 0.04 pound per person of home-produced lard while those in the South used 0.21 pound per person.

Generally, use of home-produced butter decreased in farm households with successively higher incomes, while use of home-produced lard was relatively stable throughout the income range. At the same time the average amount of purchased butter used by farm households increased with income, while use of purchased lard decreased.

Table 13.- Consumption per person of home-produced butter and lard; in farm households of 2 or more persons grouped by region and income, in a week, spring 1955 1/

Item and region	Consumption of home-produced item										Percentage of total consumption of item									
	All		Under \$2,000		\$2-4,000		\$4-6,000		\$6,000 and over		All		Under \$2,000		\$2-4,000		\$4-6,000		\$6,000 and over	
	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.	Lb.	Pct.
Butter 3/																				
United States	0.12		0.16		0.10		0.06		0.06		44		64		36		21		20	
Northeast	.09		.07		.12		.08		.04		32		24		43		30		16	
North Central Region:	.05		.08		.05		.03		.02		15		29		14		8		6	
South	.19		.20		.15		.14		.18		83		83		75		78		82	
West	.07		.08		.06		.02		.03		27		35		22		11		9	
Lard																				
United States	.18		.18		.18		.16		.17		46		34		50		67		71	
Northeast	.11		.11		.16		.07		.08		61		42		67		78		100	
North Central Region:	.18		.19		.17		.17		.20		67		58		65		74		74	
South	.21		.20		.21		.23		.21		38		31		41		54		62	
West	.04		.05		.04		4/		.09		33		42		33		8		75	

1/ From 1955 Household Food Consumption Survey, Report Nos. 1-5. Per person averages derived from household averages using average household size based on 21 meals at home equivalent to one person. Income groups based on 1954 family income after taxes.

2/ Includes some households not classified by income.

3/ Product weight.

4/ Less than 0.005 pounds.



### Expenditures for Fats and Oils

Information on the value of purchased fats and oils used by households is just as important to marketers of these items as data on the quantities used. Survey Report Nos. 1-5 give average money value per household for commodity groups and for individual items of purchased fats and oils used during the week reported on in the 1955 survey. 5/

Both degree of urbanization and region affected the dollar outlay per person for fats and oils. For instance, southern households in each urbanization generally spent the least for fats and oils (table 14). One of the reasons for lower expenditures was the heavier concentration of households among the low income groups in the South than in the other regions. Another reason was variation in the proportion of different items used. Southern households used the least butter per person, and butter was the most expensive of these items. Price differences for the same item among the several regions were small and accounted for little of the regional differences in expenditures.

In the U. S. as a whole the dollar value of all purchased fats and oils used per person generally increased with income but not as rapidly as the value of all foods bought. Thus higher income groups spent less of their food dollars on fats and oils than did low-income groups. Practically all the increase in outlays for purchased fats and oils in the higher income households was from increased use of butter. Expenditures for salad dressings and for cooking and salad oils increased only slightly in households with progressively higher incomes, and purchases of cooking fats ran lower in higher income households.

Expenditures for individual items varied by region and urbanization, as indicated in table 15, as well as by income. Households in each urbanization generally allocated to table fats about the same proportion of their total fats and oils dollar outlay. About 40 percent of expenditures for all fats and oils in the lower income groups was for table fats, and over 60 percent in the upper groups. The proportion of the fat-and-oil dollar spent for butter was greater in upper income households while that for margarine was lower. This was true in every urbanization in each region. The proportion of total fats and oils expenditures spent for cooking fats decreased from around 40 percent in low income households to about 20 percent in middle and upper income households. This difference resulted from the shift to commercially prepared foods by households in the upper income groups. Also upper income households probably used less cooking fats but more butter and margarine for frying than did those with lower incomes. The proportion spent for salad dressings ranged from 10 to 20 percent, generally increasing with income. Upper income groups mainly used greater quantities, not more expensive products. For cooking and salad oils the proportion ranged from 1 to 10 percent, again generally increasing with income.

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5/ Averages per household are misleading for some analyses because of differences in average household size; farm households had most members on the average and urban households the least. Furthermore, household size generally increased with income in all urbanizations.

Table 14.- Expenditures per person for fats and oils, and shares in total expenditures for food at home, in households of 2 or more persons grouped by urbanization, region and income, in a week, spring 1955 <sup>1/</sup>

Urbanization and region	Expenditures per person						Shares in total expenditures for food at home <sup>3/</sup>					
	All		Under \$2,000		\$2-4,000		Under \$2,000		\$2-4,000		\$4-\$6,000 and over	
	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Pct.
Urban												
United States	0.31	0.26	0.29	0.31	0.36		4.1	4.7	4.4	3.9	4.1	
Northeast	.31	.26	.30	.31	.34		3.9	4.5	4.1	3.8	4.0	
North Central Region:	.33	.31	.32	.31	.37		4.2	4.5	4.4	4.2	4.2	
South	.28	.24	.27	.29	.33		4.5	4.9	4.7	4.3	4.1	
West	.33	.32	.28	.30	.62		4.2	4.9	4.2	4.0	4.2	
Rural nonfarm												
United States	.29	.25	.28	.31	.35		5.0	6.7	4.9	4.8	4.6	
Northeast	.30	.24	.29	.28	.33		4.6	5.2	4.8	4.2	4.4	
North Central Region:	.32	.28	.29	.34	.37		5.1	5.9	5.2	5.2	5.0	
South	.27	.24	.25	.31	.33		5.4	7.1	5.0	5.0	4.5	
West	.33	.30	.31	.33	.40		4.4	5.6	4.3	4.5	3.9	
Farm												
United States	.25	.21	.25	.29	.30		6.7	7.2	6.6	6.6	6.5	
Northeast	.28	.36	.24	.26	.34		5.9	7.8	5.6	5.1	5.7	
North Central Region:	.30	.26	.30	.32	.31		7.4	7.1	7.6	7.3	7.3	
South	.19	.18	.21	.22	.21		6.4	7.3	6.0	5.7	5.1	
West	.30	.30	.29	.31	.27		6.4	6.0	6.2	6.8	6.6	

<sup>1/</sup> From 1955 Household Food Consumption Survey, Report Nos. 1-5. Income groups based on 1954 family income after income taxes.

<sup>2/</sup> Includes some households not classified by income.

<sup>3/</sup> Excludes expenditures for alcoholic beverages.

Table 15.- Shares of major fats and oils items in total expenditures for fats and oils for home use, in households of 2 or more persons grouped by urbanization and region, in a week, spring 1955 <sup>1/</sup>

Urbanization and region	Table fats		Cooking fats		Salad and cooking oils		Salad and cooking oils		All fats and oils	
	Pct.		Pct.		Pct.		Pct.		Pct.	
	Total	Butter	Mar- garine	Total	Lard	Vegetable short- ening	Vegetable short- ening	Salad and cooking oils	Salad and cooking oils	All fats and oils
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
Urban										
United States	59	43	16	17	5	12	12	8	16	100
Northeast	67	54	13	10	2	8	8	11	12	100
North Central Region	65	49	16	15	3	12	12	5	15	100
South	42	22	20	31	12	19	19	6	21	100
West	56	36	20	16	3	13	13	8	20	100
Rural nonfarm										
United States	52	31	21	26	11	15	15	6	16	100
Northeast	68	39	29	13	2	11	11	7	12	100
North Central Region	63	43	20	19	5	14	14	3	15	100
South	33	15	18	40	23	17	17	7	20	100
West	50	28	22	21	4	17	17	12	17	100
Farm										
United States	51	38	13	29	17	12	12	4	16	100
Northeast	66	45	21	16	4	12	12	4	14	100
North Central Region	72	60	12	15	5	10	10	2	11	100
South	23	8	15	51	36	15	15	5	21	100
West	52	38	14	20	4	16	16	11	17	100

<sup>1/</sup> From 1955 Household Food Consumption Survey, Report Nos. 1-5.

<sup>2/</sup> Includes a small amount of mixed vegetable oil and animal fat.



### Comparison of 1955 Averages and Patterns of Use with Those of Earlier Surveys

Since the start of World War II there have been 3 nationwide surveys of food consumption and dietary levels in the U. S. In the spring of 1942 households in all urbanization categories were surveyed and the results tabulated by urbanizations for the whole country. In the spring of 1948 urban households only were surveyed, with limited regional data published. The much larger sample used in the 1955 survey has provided greater detail, as illustrated throughout this article. These surveys supply pictures of food patterns of households at 3 points in time covering a span of 13 years. After adjusting for price changes <sup>7/</sup>, the data on fats and oils items highlight the changes since 1942 in average amounts used and in patterns of use of individual items in relation to income and to urbanization.

#### Overall Measures

Between 1942 and 1955 the total fat content of diets for all households increased 20 percent, from 1.98 pounds per person to 2.39 pounds. The increase in fat content came from the greater use of meats, dairy products and other foods high in non-separated fats. Average use of separated fats remained 0.85 pound per person. Use of separated fats remained at the same level because use of invisible separated fats increased from 0.08 pound per person in 1942 to 0.12 pound in 1955, offsetting a corresponding drop in use of visible separated fats during that period.

In order to include 1948 data to find out when these changes in use of fats and oils occurred, the analysis must be shifted from all households to urban households only. Table 16 indicates that the changes in use of non-separated fats by urban households occurred at about the same rate before 1948 as after. The greater part of the changes in use of visible and invisible separated fats occurred after 1948.

Part of the drop in average use of visible separated fats came from (1) changes in patterns of use according to income, (2) changes in distribution of households among income groups, and (3) changes in the proportion of households using the commodities. Contributions of these sources of change to the change in average use of individual fats and oils items are measured with the survey data in the following sections.

#### Table Fats

In spring 1942 even low-income urban households used more butter than margarine per person. At that time average use of butter increased sharply among households with successively higher incomes while use of margarine

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<sup>7/</sup> Average income of each income group has been adjusted to 1954 dollars by using changes in the BLS Consumer Price Index to adjust the income reported in the surveys.



Table 16.- Comparison of fat content of diet per person in United States, urban households of 2 or more persons, in a week, spring 1942, 1948, and 1955 <sup>1/</sup>

Item	1942	1948	1955
	<u>Lb.</u>	<u>Lb.</u>	<u>Lb.</u>
Total fat content of diet	2.05	2.18	2.33
Fat content of foods other than separated fats	1.22	1.35	1.53
Fat content of all separated fats	.83	.83	.80
Visible	.73	.72	.67
Invisible <sup>2/</sup>	.10	.11	.13

<sup>1/</sup> 1942 and 1948 data derived from Agriculture Information Bulletin No. 132, Food Consumption of Urban Families in the United States, U. S. Department of Agriculture, Washington, D. C. 1955 data from 1955 Household Food Consumption Survey, Report No. 1.

<sup>2/</sup> Separated fat taken into the kitchen in processed food, such as shortening in bakery goods. Estimated as 10 percent of flour mixes, 2 percent of bread, 10 percent of other bakery products, and 35 percent of potato chips.

Table 17.- Comparison of use per person of home-produced fats and oils, in all U. S. farm households, in a week, spring 1942 and 1955 <sup>1/</sup>

Item	Total used		From home production		Percentage home-produced	
	1942	1955	1942	1955	1942	1955
	<u>Lb.</u>	<u>Lb.</u>	<u>Lb.</u>	<u>Lb.</u>	<u>Pct.</u>	<u>Pct.</u>
Butter	0.45	0.27	0.30	0.12	67	44
Lard	.39	.39	.22	.18	56	46

<sup>1/</sup> 1942 survey data from Family Food Consumption in the United States, Misc. Pub. No. 550, and 1955 Household Food Consumption Survey, Report No. 1.

decreased to practically nothing in the highest income groups. In 1948 low-income households used more margarine per person than butter, and use of margarine did not decrease as sharply with income as it did in 1942, nor did the use of butter increase as sharply. By 1955 urban households up to the middle income groups used more margarine than butter on the average, and average use of margarine declined only slightly in the upper income groups. 8/

The averages cited above are based on all urban households in the group, including those households not using the item. The changes between 1942 and 1955 may have come from changes in the proportion of households using the item, or from changes in the average amounts used by using households. For butter, the proportion of households using dropped from 85 percent in 1942 to 63 percent in 1955. The average amount consumed by using households declined also, from 1.43 pounds per household to 1.05 pounds (table 18). At the same time, the proportion of households using margarine increased from 14 percent to 59 percent, mainly because of the greater proportion of upper income households using margarine in 1955. The average amount of margarine consumed by using urban households dropped from 1.36 pounds per household to 1.12 pounds.

### Cooking Fats

In spring 1942 much more lard than vegetable shortening was used per person by low-income urban households. In that year average use of lard decreased sharply in households with successively higher income while use of vegetable shortening increased slightly until by the middle income groups more vegetable shortening was being used than lard. In 1948 the patterns of use of the two commodities were about the same as in the earlier year except that there was less difference in average use of the two items by the lower income group. Consequently, more vegetable shortening than lard was being used by households from the lower middle income groups on up. By 1955, only the lowest income group used more lard than shortening, otherwise the patterns of use were the same, lard decreasing with income and vegetable shortening increasing with income.

The entire drop from the 1942 level of average use per person of lard to the 1955 level came from a drop in the proportion of households using lard, for the average amount used by using households was roughly the same in the 3 survey periods. About 35 percent of the urban households interviewed in 1942 used lard, while only 16 percent did in 1955 (table 18). The average amount of vegetable shortening used increased because the proportion of households using increased more than the average amount per using household decreased.

The net effect of changes in patterns and levels of use of cooking fats from 1942 to 1955 was that, on the average, use per person of lard in urban households decreased to about half what it was in 1942, and per person use of vegetable shortening increased about one-fourth. These changes came about mainly because vegetable shortening gained users and lard lost them.

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8/ For more details on changes in patterns of use of table fats see The National Food Situation, NFS-79, February 1957.

Table 18.--Percentage of households using major fats and oils and average amount used per household reporting, urban households of 2 or more persons, in a week, spring of 1942, 1948, and 1955 <sup>1/</sup>

Items	Percentage using			Average per household using		
	1942	1948	1955	1942	1948	1955
	Pct.	Pct.	Pct.	Lb.	Lb.	Lb.
Butter	85	66	63	1.43	1.18	1.05
Margarine	14	51	59	1.36	1.18	1.12
Lard	35	28	16	1.43	1.39	1.38
Vegetable shortening <sup>2/</sup>	38	64	52	1.32	.75	.89
Salad and cooking oil	15	27	28	1.87	.78	.82
Salad dressings	<u>3/</u>	<u>3/</u>	72	<u>3/</u>	<u>3/</u>	.72

<sup>1/</sup> 1942 and 1948 data from Agriculture Information Bulletin No. 132. 1955 data from 1955 Household Food Consumption Survey, Report No. 1.

<sup>2/</sup> Includes a small amount of mixed vegetable oils and animal fat.

<sup>3/</sup> Not available.

Table 19.--Comparison of survey data and annual disappearance data for consumption per person per week of fats and oils, 1942 and 1955 <sup>1/</sup>

Items	Spring survey data			Annual disappearance data		
	1942	1955	Change	1942	1955	Change
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
All separated fats	0.98	1.01	+0.03	0.94	0.93	-0.01
Butter	.37	.20	-.17	.31	.17	-.14
Margarine	.06	.20	+.14	.05	.16	+.11
Lard	.23	.14	-.09	.25	.19	-.06
Other fats and oils <sup>2/</sup>	.31	.47	+.16	.33	.41	+.08

<sup>1/</sup> 1942 survey data from Family Food Consumption in the United States, Misc. Pub. No. 550; and 1955 Household Food Consumption Survey, Report No. 1. Annual disappearance data from official disappearance series.

<sup>2/</sup> Includes vegetable shortening, salad and cooking oil, prepared salad dressing, and invisible separated fats in prepared foods such as bakery products.



### Cooking and Salad Oil and Salad Dressing

Average use per person of cooking and salad oils was the same among urban households in 1955 as it was in 1942 and 1948. but average use of salad dressings increased. The pattern of average use of cooking and salad oil according to income was about the same at the time of the 3 surveys because the increase in average amounts used per person by using households offset the decrease in proportion of households using. Households in all income groups are using more salad dressing, with both the percentage of households using and average amounts used by using households having increased over this period.

### Changes in Use of Home- Produced Fats

Since farm households were surveyed in both 1942 and 1955, the changes in use of home-produced fats over that period can be measured. In 1942 two-thirds of the butter used by farm households in the U. S. was home produced, and over half of the lard used was home produced. In 1955 less than half of both commodities used by farm households was home produced (table 17). Home production of lard and butter was even less important in the total supply picture of these commodities in 1955 than these changes indicate because there were fewer farm households in 1955 than in 1942.

### Survey Data Useful in Analysis of Changes in Disappearance of Fats and Oils

Disappearance data such as those regularly reported in National Food Situation and Fats and Oils Situation cover use of fats and oils by the entire civilian population while the survey data described herein pertain only to use by housekeeping households. In spite of this difference in coverage, survey data are useful in the study of major changes in disappearance data because the largest proportion of total food fats and oils is consumed at home in housekeeping households. 9/ And, though these survey data cover use during a week in the spring while disappearance data measure total use during the year, there is no problem of seasonality because spring appears to be a period of average use of fats and oils in households. 10/

Changes in use of individual fats and oils items from 1942 to 1955 as measured by survey data are compared with changes as measured by disappearance data in table 19. Both sets of data indicate that per person use of butter dropped almost 50 percent from 1942 to 1955, while average use of margarine increased to over 3 times what it was in 1942. Changes in use of lard and other fats and oils were in the same direction according to both sets of data though the levels of use differed slightly.

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9/ Marketing Res. Report No. 3, page 84, indicates that non-household users, institutions and public and private eating places, use fats and oils at a somewhat greater rate per person than is used in households.

10/ Agriculture Information Bulletin No. 132, p. 9.



Components of Change  
in Average Use

Changes in per person use of an item in the fats and oils group can result from changes in different aspects of use. These include: (1) Change in pattern of use according to income. For example, in 1942 low-income households used more margarine per person than upper income households, but in 1955 households in all income groups used margarine at about the same rate.

(2) There may be a change in level of use (average household use is greater in each income group) though the pattern of use with respect to income remains the same. (3) Average use may be affected by a change in distribution of households among the income groups though the pattern and level of use in relation to income have stayed constant. (4) Because of differences in average rates of use of individual items among farm, rural nonfarm, and urban households, the average may be affected by a change in distribution of households among the several urbanization categories. The effect of each of these 4 components of change are measured with survey data in the following paragraphs, illustrating how such measures are directly useful in explaining changes in per capita disappearance.

According to the survey data 11/, from 1942 to 1955 household patterns of use with respect to income changed for margarine and vegetable shortening only of the fats and oils items. Patterns of use of the other fats and oils items were similar in the two years. However, the level of average use of most fats and oils items changed during this period. Households in each income group used more margarine, vegetable shortening, and salad dressings per person in 1955 than did households in the same real income group in 1942, and they used less butter and less lard in 1955 than in 1942. This change in level of use apparently resulted largely from the improvements in the products, increased social acceptability of margarine that was hastened by butter shortages, and the relaxing of legal restrictions on the sale of margarine.

The effect of changes in distribution of households among income groups on average use of fats and oils can be measured by weighting the 1942 average use per person in each income group by the 1955 distribution of the housekeeping population among the same real income groups, and the 1955 pattern of use by the 1942 distribution. This procedure holds everything constant except the income distribution. Although there was a decided upward shift in distribution of the population among the income groups, switching income distributions resulted in negligible changes in average use per person figures of total separated fats and oils for the 2 years. Total use figures did not change because of the offsetting patterns of use with respect to income of the different items such as the use of butter increasing with income and

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11/ Changes in pattern and level of use of each item are studied most easily by charting average use per person in each income group for 1942 and 1955 after the 1942 incomes had been adjusted to 1954 dollars by changes in BLS Consumer Price Index for that period.

use of margarine, in 1942, decreasing. Switching income distributions did cause a change in the use per person figures of most of the individual items.

The effect of urbanization shifts can be measured in much the same way as were income distribution shifts. All other factors are held constant by weighting the 1942 average use per person for all households in each urbanization by the 1955 distribution of household members in each urbanization, and the 1955 averages by the 1942 distribution. The resulting changes in average use per person figures of total fats and oils items for the U. S. population were negligible. The effect of switching urbanization distributions was minor because the population shift was mostly from farm to rural nonfarm, and average use of these items in the two urbanization categories was similar.

After separating the effect of each of the 4 components of change in average use per person it is evident that, except for margarine and vegetable shortening, for which consumption patterns with respect to income changed considerably, almost all the changes in average use of the other fats and oils came from changes in level of use by households in each income group. Some of the factors behind these changes in level of use, whether from changes in proportion of households using or from changes in level of use by those using, have been discussed in an earlier section.

#### Notes on Estimating Future Consumption of Fats and Oils

Future consumption of fats and oils may be estimated by projecting historical trends in the disappearance data. Such a projection implies that the combination of factors that caused changes in consumption in the past will work out in the same way in the future. This overly simplified procedure can be made more realistic by use of available survey data to extrapolate individual components of historical trends. For example, urbanization shifts should not be assumed to continue to change in the same relation to income shifts and family size changes as they have in the past, but each component should be projected along its expected path, and its effect on use of fats and oils items be measured separately. The resulting estimate would weight the factors affecting consumption of individual items according to their expected importance at the time for which the estimate is made, not according to their historical relationships. Of course, new factors not measured by the historical trends, such as further technological improvements or adverse findings from nutritional research on the effect and control of the cholesterol level, could be more important in the future than the factors that seem to have determined consumption rates in the past.



